MOOD AND DREAMING: MANIFESTATIONS OF PERSONALITY TRAITS AND STATES IN THE DREAM

By

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Despite initial disclaimers by psychoanalysts, manifest dream content has been shown to relate to a wide variety of important personality variables. The literature strongly supports the notion that dream content can reflect both state and trait characteristics of the individual. The present study investigates the relationships between mood variables and dreaming within the context of personality traits and states.

Fifty undergraduate subjects rated their daily moods before bedtime on 6 selected scales of the Wessman and Ricks Personal Feeling Scales over a 28 day period. Subjects also recorded their dreams each night and rated their moods as experienced in the dream using the same mood scales. During the third week of data collection, subjects were administered the Sixteen Personality Factor Questionnaire (16 PF, Forms C and D), which serves as a personality trait measure criterion.

Frequency of dream recall is correlated with various mood and personality trait variables. Dream recall frequency is not found to relate substantially to personality trait variables although personality state change is determined to affect recall. Males tended to recall

more dreams following a particularly "moody" day with the mood level in the dream correlating positively with waking mood level on the day preceding the dream.

Rationally derived correspondences between selected 16 PF factors and the six Personal Feeling Scales permitted trait-mood comparisons. Correlations between mean day and dream mood levels and 16 PF factor scores are obtained demonstrating moderate conceptual similarity. In general, mean day moods are found to correlate more highly than mean dream moods with the personality trait criteria.

A pool of 35 subjects was selected to be rated by judges on the expressed or implied moods present in manifest dream content. Five judge groups were formed with each group rating seven subjects. Judges rated four dreams of each subject on six Personal Feeling Scales and made composite "trait ratings" based on mood level for each subject.

Although reliability estimates varied, moderate inter-rater agreement is obtained. Judges' trait ratings are correlated with corresponding 16 PF factors. It is concluded that judges can predict personality traits significantly above chance on the basis of moods present in four dreams. Few consistencies in the judges' performance, though, were noted.

The results are felt to be consistent with the notion that dreams best reflect state changes in the individual and may be useful in processing emotionally difficult material. Clinical and heuristic implications of the present research are discussed.

INTRODUCTION

Despite the initial disclaimers by psychoanalysts of the significance of surface dream content, an increasing amount of attention has been directed at the diagnostic importance of manifest dream characteristics (Hall & Van De Castle, 1966; Erikson, 1954). Although Freud himself was skeptical that manifest dreams could directly reflect personality dynamics (1950), Langs (1966, p.635) infers from Freud that the manifest dream may be seen as a "symptom," thus being a "derivative and disguised expression of the latent content and not an unrelated screen." In any event, manifest dream content has been described as possessing certain regularities with respect to a wide variety of variables including sex, age, SES, psychiatric status, pregnancy, menstruation and creativity. This literature gives strong support for the notion that manifest dream content can reflect both state and trait characteristics of the individual. As such, the verbalized dream may be of substantial diagnostic significance in assessing both chronic and acute psychological conditions.

It is probable that the similarities in manifest dream content accompanying distinct psychological states of the dreamer as well as the consistencies apparent in the dreams of a single night (Kramer, Klasny, Jacobs & Roth, 1976) reflect, at least in part, the prominent emotional tone or moods of the day. Indeed, Freud (1950, p.50) said, "the effects of the dream-thoughts undergo slighter alterations than their conceptual

content." In the Freudian scheme, affects can be directly expressed, while being disguised by a dissociation with their conceptual referents. Jacobsen (1957) has discussed the pervasive nature of mood in coloring one's behavior and experience and has emphasized the importance of mood as a barometer of the ego state.

The relationship between waking mood and personality variables has been receiving increased attention in personality research (Wessman & Ricks, 1966). Mood variables have been demonstrated to relate to the cognitive styles of sensation seeking and field dependence (Gorman & Wessman, 1974), level of psychological differentiation (Frank, 1967) and therapist facilitativeness (Gurman, 1972). The studies mentioned have all utilized the Wessman and Ricks Personal Feeling Scales (1966), a rationally derived instrument sampling a variety of moods and allowing cross-subject comparisons. A few studies have compared sleep and dream content variables to waking mood, although these investigations have been exploratory or limited in nature (Piccione, Jacobs, Kramer & Roth, 1977; Kramer, Roehrs & Roth, 1976; Swanson & Foulkes, 1968).

The present study examined a substantial, representative sample of an individual's dream experience with reference to stable and fluctuating moods as reflected in both daily mood and personality trait measures. Mood parameters of manifest dream content were also explored in order to determine the relative manifestations of personality states and traits present in dreams. The intent of the present research was to determine the extent to which dreams reflect day to day changes in the individual or more enduring personality traits. Additionally, the present research considered the possibility that the relative trait-state incorporation in dreams may vary as a function of personality characteristics of the

individual. That is, the extent to which an individual "takes his worries to bed with him" (or can relate worrisome dreams) may be related to the general personality organization of the dreamer.

The focus of the present research was the relationships between mood and dreaming. Considering the prominent role attributed to mood in dreams (Freud, 1950) and as a personality component (Jacobsen, 1957), it is surprising that previous study of mood parameters has been sparse. This study examined relationships between daily moods and frequency of dream recall, dream moods and independent personality trait criteria. Additionally, judges' ratings of dream mood were examined to assess the clinical claim that personality judgments from dreams can be diagnostically useful.

Previous research has shown a variety of demographic variables to be related to dream content dimensions (Winget, Kramer & Whitman, 1972). These researchers concluded that the most important single demographic factor affecting dream content is sex. Females were found to have more friendly interactions, more emotions and more indoor settings in their dreams. Male subjects were found to contain significantly more aggression, more achievement striving with successful outcomes, more castration anxiety and more overt hostility in their dreams.

Increased death anxiety or themes relating to death were found among older subjects. Socioeconomic status was also found to relate to dream content. There were more misfortune dreams (mishap, danger with no intentionality) in lower and lower middle class subjects than in the upper middle class. There were also more people in the lower SES dreams. Death anxiety was also found to increase as SES decreased. The authors utilize a "continuity theory" of dreams to explain these

findings by assuming that lower SES subjects are realistically more powerless and with fewer resources to deal with the threat of death than higher SES subjects. Similarly it was hypothesized that the daily waking existence of lower SES people is also more densely crowded with people in their home and work situation than is true for higher SES families. While the generalizability of this demographic study of dream content is tempered due to the use of only one dream per subject, some of these relationships have been supported in other studies (Hall & Van De Castle, 1966; Hall & Domhoff, 1963).

A great deal of literature exists on dream content differences in different psychiatric groups, principally depression and schizophrenia. If dreams reflect chronic traits of the individual, it should be possible to demonstrate similarities within members of a given diagnostic group as well as differences in dream content between divergent patient groups. If dreams reflect transient state changes, then dream content would be expected to change throughout the inception and recovery of psychiatric illness.

Some correlates of acute phases of depression in dreams seem reasonably established. When overtly psychotic, depressed patients report relatively bland and barren dreams, usually involving a preponderance of family members with few strangers (Van De Castle & Holloway, 1971; Miller, 1969; Langs, 1966; Kramer, Whitman, Baldridge & Lansky, 1965). Langs (1966) speculates that such dream content reflects the "excessive denial and decathexis" that is typical for psychotically depressed patients.

As depression lifts, dream content reflects more anxiety and hostility (Kramer, Whitman, Baldridge & Lansky, 1965). With clinical

improvement depressed patients dream of hurting and coercing others while being hurt and coerced by them (Miller, 1969). Miller related this increased agitation in the recovering depressed patient to the clinical observation that recovering depressives are a particularly high risk group for suicide.

While the above aspects of dream content seem to change with the clinical course of depression, other aspects of dream content remain relatively more stable. Remitted patients continue to dream more often about hostile environments with more inanimate objects exerting physical effort (Hauri, 1976). Remitted patients also dream more often about the past than do controls. Masochism and dependency themes remain persistent even after considerable clinical improvement (Kramer et al., 1969; Beck & Ward, 1961). Cyclical depressives were noted to have masochistic themes at the same frequency even during remitted or symptom-free segments of their manic-depressive cycle (Beck & Ward, 1961). Masochistic dream themes therefore are not associated with depression per se but more with "certain personality characterisitcs of individuals who develop severe depressions" (Beck & Ward, 1961, p.465).

Depressed patients also exhibited more frequent themes of escape, helplessness and hopelessness which remain unchanged with clinical improvement (Kramer et al., 1969; Kramer et al., 1965). The dreams of depressed patients also have less color references, more parental figures as well as more adjectives referring to youngness (Van De Castle & Holloway, 1971). Kramer and his associates (1969, 1965) conclude that dreams are not absolute mirrors of the clinical state but lag behind the current clinical status. This lag may reflect the "still precarious defensive integration" of the recovering depressive as well as

a more general preoccupation with the past. These results seem to suggest that some personality traits in depressed patients are chronically disturbed and do not improve when patients improve clinically.

Manifest dreams of schizophrenic patients have been described as "bizarre, uncanny, unrealistic and having a strange or cosmic quality" (Richardson & Moore, 1963, p.289). In contrast to depressed patients, schizophrenic patients have more strangers in their dreams than family members or friends (Kramer & Roth, 1973). Schizophrenics also dream more about men than women and have more aggressive social interactions than friendly or sexual interactions. In a comparison of schizophrenic, depressed and medical patients, Kramer et al. (1969) noted that schizophrenics had the most implausible and most hostile dreams. In the great majority of hostile dreams in paranoid schizophrenics, the hostility was directed toward the dreamer which was unlike both depressed and medical patient groups. The most frequent emotion found in schizophrenic dreams is apprehension (Kramer & Roth, 1973) with fewer friendly social interactions and more ambiguous and questionable settings (Kramer, Trinder & Roth, 1972). The schizophrenic shows a greater tendency to not be the central figure in the dream (Brenneis, 1954).

Schizophrenic dreams also reveal more "primary process indicators" denoting a blurring of conceptual boundaries with arbitrary association and combination of dream elements. This quality of schizophrenic dreams was found to be highly predictive of psychiatric diagnostic (Brenneis, 1954).

Additionally, dream themes of schizophrenic patients show a proneness for conflict with others as well as a characterization of the environment as traumatizing and overwhelming (Langs, 1966). The relative

stability of these dream elements, despite the suggestion of Kramer, Trinder and Roth (1972) that dream content did not differ with a change in clinical state, is still unresolved due to some acknowledged methodological weaknesses in their study. These researchers did note that activities in dreams became more active after clinical improvement than before treatment. By and large the data available on schizophrenic dreams is most compatible with a continuity between waking cognitive-emotional factors and dreams in schizophrenic populations.

Van De Castle and Kinder (1968) reported characteristic dream content in females during pregnancy which presumably related to waking concerns and emotions. Themes of physical or sexual unattractiveness were prevalent as well as themes where the subjects' husbands were finding other women more appealing and attractive. Also in the last trimester many women exhibited various anxiety dreams related to birth complications or deformities of the fetus.

Hertz and Jensen (1975) discovered greater themes of emotional conflict and emotional instability in menstruating women. Menstrual dreams are more likely to contain emotions and hate than non-menstrual dreams. There is also a greater preoccupation with male figures other than the subjects' husbands or fathers. These relationships are interpreted in a continuity framework with citations of empirical findings of greater accidents, violence, suicides and psychotic episodes occurring in menstruating women. Additionally, Swanson and Foulkes (1968) found that dream content was judged to be most unpleasant during the "most depressed" phase of the menstrual cycle.

Dream content characteristics of creative writers have been demonstrated to exhibit certain trait-like components. Adelson (1960)

distinguished creative and uncreative writers in a college English class and found that absurdities (logical or physical impossibilities) in dreams occurred significantly more often in creative than uncreative writers. The incidence of humor in dreams was also related to high literary creativity. Another notable finding of this study was that 20% of the creative subjects did not participate in the dream action. Adelson suggests that the ability to stand apart from reality is a first condition to seeing reality in an imaginative, creative manner.

In an effort to empirically test Jung's theory of the compensatory aspect of dreams, Domino (1976) rated 3 dream reports per subject on 15 personality dimensions. These ratings were then compared with scores on the same dimensions as measured by the Edwards Personality Preference Schedule (EPPS) and the Adjective Check List (ACL). Significant positive relationships were found between the dream ratings and both the EPPS and the ACL on the personality dimensions of Achievement, Deference, Dominance, Change and Heterosexuality. These positive correlations are supportive of a continuous relationship between waking personality attributes as measured psychometrically and personality dimensions which can be inferred from dream reports.

Two related studies (Rychlak & Brams, 1963; Rychlak, 1960) utilized personality judgments formed from the MMPI, the Manifest Anxiety Scale and the Personality Preference Schedule to compare with the dreams of school children. Considerable consistency between dream themes and personality trait characteristics were noted. Children with many Affiliative dream themes (pleasurable interpersonal relationships) were more socially responsible and seeking close interpersonal relationships than other children. Children with many Reward themes (positive,

pleasurable non-human contact) were found to be quite outgoing, dominant, self-confident and achievement oriented. Children with many Tension themes (anxiety, frustration, hostility) were found in the personality test data to exhibit some neurotic trends with frustration and concern about physical health. These studies suggest a continuity between thematic elements in dreams and waking personality characteristics.

A variety of approaches have attempted to discover the degree of continuity between waking and sleeping mentation. Starker (1974) was able to demonstrate a good degree of commonality between daydreaming styles and nocturnal dreaming. Subjects who had "Positive" waking fantasies (vivid, absorbing, pleasant) also had dreams which were most positive in tone and the least bizarre. Subjects with a "Negative" daydreaming style (guilt, fears, conflict) had more bizarre dreams and dreams which were more negatively toned. Subjects with an "Anxious-Distractible" daydreaming style (bizarre, frightening, distractibility) had the most bizarre and the most emotional dreams. Starker also reports that these three daydreaming styles maintained a direct positive relationship with the subject's frequency of nightmares. Starker draws the conclusion that the daydreaming style a person typically utilizes will be carried over as a nocturnal dreaming style. Inasmuch as an individual's daydreaming style reflects transient or stable aspects of mood and personality, these aspects also are expressed in nocturnal dreams.

Some support for the notion that dream content and daily moods are directly related was provided by Kramer, Roth, Arand and Palmer (1972). These researchers concluded that dream content does seem to relate to changes in mood from before to after sleep. More specifically, mood

change from before to after sleep is related to the types of characters and moods experienced in dreams. The dream is thus seen as a psychoregulatory intervening variable that can mediate psychological changes.

In a later study, Kramer and his associates (1976) took a somewhat different approach to investigating state-trait representations in dreams. If dreams have meaning for the individual, then they should be distinguishable between individuals and within an individual over different nights. Accordingly, Kramer and his associates were able to demonstrate that the dreams of both schizophrenics and normals could be sorted well beyond chance levels both between individuals and according to their occurrence on different nights. This latter observation would seem to support the interpretation that dreams reflect day to day changes in the individual. Kramer and his associates found that sorting dreams into different nights was easier with schizophrenic dreams than normal dreams while sorting dreams by the individual dreamer was easier among normal subjects. These researchers were unable to reliably sort dreams into their correct sequencing during a given night. While the verbal style of the subject may have influenced the dream sorting, the fact that a person's dreams of one night can be distinguished from those of another night argues against verbal style being the only distinguishing feature of the dreams. To sort the dreams of the same person by night requires that the dreams of a given night have more in common with each other than with those of another night, thus implying a "state" distinction that is reflected in dreams. Another interesting finding of this research is that the relative experience or inexperience of the judges in working with dreams did not have an effect on their ability to sort the dreams correctly. This ability to see

connections among dreams without prior clinical experience suggests that there is an order in dreams of a reasonably obvious nature.

In a study comparing daily activities, emotions and dream content (Piccione, Jacobs, Kramer & Roth, 1977), significant incorporations of emotionally intense waking activities were noted. These researchers conclude that dream content is most concerned with the activity of the day which is accompanied by intense emotion.

In summary, dream content research relating to personality dynamics has suggested considerable continuity between waking state-trait personality characteristics and those revealed in dreams. Select subject groups, with presumably many similar personality dynamics and emotional characteristics, have generally been shown to produce similar manifest dreams. Similarly, patient groups with different psychiatric diagnoses have somewhat consistently been shown to dream differently. In addition, dream content of psychiatric and other more or less discrete subject groups can be related to independent clinical hypotheses corresponding to the active waking conflicts and concerns of the dreamer. As well, the above studies have at least implicitly implicated the role of mood, as a principal concomitant of personality states and traits, in influencing dream content.

A major methodological problem which has hampered dream content studies has been the use of only one or a limited number of dreams per subject in investigating personality trait correlates. Requesting only one dream per subject increases the risk that the selection characteristics of the dream will not be random but will be related to the desire to present oneself in a favorable light. A dream reported by a subject because of its novelty or other distinguishing features may lessen the

likelihood that the dream will be representative of the total dream repertoire of the subject. Garfield (1973) has argued the case for longitudinal dream records in dream studies to circumvent these problems. Many studies utilizing only one dream per subject also do not account for how recently the dream occurred, thus introducing the additional contamination of possible memory distortions.

In utilizing several dreams of the individual, the present research allowed a more complete representation of an individual's dream life. Collecting a series of dreams over time also provided a means of assessing the relative manifestations of state-trait personality dimensions in manifest dream content.

Subjects in this study recorded a variety of daily moods over a 28 day period. Also during this period, subjects recorded their dreams and rated their moods as experienced in the dreams. In addition, judges blindly rated dream narratives on mood levels suggested by dream content. Rationally derived correspondences between mood dimensions and a personality trait criterion (16 PF) allowed comparisons between mood ratings and the 16 PF. Some of the major expected hypotheses were as follows:

1) That subjects' dream moods would correlate positively with subjects' daily moods.
2) That mean (28 days) of subjects' "average" daily moods would correlate positively with associated 16 PF trait levels.
3) That mean (28 days) of subjects' "average" ratings of dream moods would correlate positively with associated 16 PF trait levels.

4) That judges' ratings of dream moods would correlate positively with associated 16 PF trait levels.

METHOD

Subjects

Three Introductory Psychology classes at the University of Florida (summer session) were informed that they could earn experimental credit by participation in a research project on dreams. Potential subjects were informed of the benefits and given the opportunity of earning experimental credit by recording their dreams while being apprised of their responsibilities to participate diligently over a four week period. Thirty males and thirty females signed up for the experiment. The subjects ranged in age from 17 to 30. Subjects were assured that confidentiality would be maintained.

Instruments

The Sixteen Personality Factor Questionnaire (16 PF - Forms C and D) and selected scales of the "Personal Feeling Scales" (Wessman and Ricks, 1966) were the primary instruments used in the present research. The Personal Feeling Scales are a battery of 10-point self-rating affect scales devised by Wessman and Ricks (1966). Each point of the scale contains a descriptive statement intended to provide the subject with a comprehensive and exact vocabulary of affect and feeling that would be suitable for repeated self-reports over an extended period. In all, 16 rationally derived mood scales comprise the instrument, of which six were extracted for the present research. Wessman and Ricks constructed the scales to measure a variety of feelings with each scale

being as unidimensional as possible. Each scale encompasses a broad and graduated range of feeling with extreme contrasting feelings at each end of the continuum. Wessman and Ricks strived to have approximately equal subjective gradations between adjacent items as well as cross-scale comparability. That is, a "9" on one scale would be approximately as extreme as a "9" on another scale. By characterizing each scale position by a descriptive statement, Wessman and Ricks hoped to allow some degree of cross-subject comparability of responses.

Although reliability and validity data have not been established for the Personal Feeling Scales, it was felt that the desirable characteristics of the scale as outlined above outweighed the fact that the psychometric properties of the scales are, as yet, not fully explicated.

The scales chosen for use in the present study were Harmony vs. Anger (I), Sociability vs. Withdrawal (II), Tranquility vs. Anxiety (III), Impulse Expression vs. Restraint (IV), Self-Confidence vs. Feelings of Inadequacy (V), and Elation vs. Depression (VI). These scales, which are presented in Appendix 1, were chosen because of their relevance to dream content and because each scale could be rationally related to corresponding 16 PF factors.

Because the Sixteen Personality Factor Questionnaire (16 PF) is well known, a description here is superfluous. The 16 PF was chosen because of its ability to measure a wide variety of more or less independent enduring personality traits (Cattell, 1970). The 16 PF trait scores were treated as independent criterion measures against which trait indices based on mean mood levels were compared. Sten scores based on combined forms C and D were used for selected primary factors and second-order factors.

Table 1 presents the 6 selected Wessman and Ricks mood scales with the associated 16 PF factors. For the 16 PF, the low score direction is indicated by the first component of the personality dimension being evaluated (e.g., low scores on the Introversion vs. Extraversion scale signify a high level of Introversion). The opposite relationship holds true for the Personal Feeling Scales. The presumed directionalities of the relationships between the mood scales and the 16 PF factors are also presented in Table 1.

Although many of the associations of the mood scales and 16 PF scales are self-evident, some additional explanation may be helpful to the reader. The following descriptions of 16 PF traits are taken from Cattell (1972, 1970). More complete capsulized descriptions of the selected 16 PF factors are presented in Appendix 2.

Mood Scale I, tapping Harmony with others vs. Anger was rationally related to Factor F (Desurgency vs. Surgency) and the qualities of being "happy-go-lucky, cheerful, active and enthusiastic." Similarly, Factor I (Tough-minded vs. Tender-minded) contains elements of "tender-mindedness, gentleness and kindliness" vs. "smugness and cynicism." Positive relationships were predicted between these two 16 PF scales and Mood 1 (Harmony vs. Anger).

Sociability vs. Withdrawal (Mood Scale II) could be rationally related to several 16 PF factors. Self-evident positive correspondence was posited with Factor Q_I (Introversion vs. Extraversion) and Factor H (Shy vs. Venturesome). The "outgoing and participating" qualities of Factor A as well as the "happy-go-lucky, active, unrestrained" attributes of Factor F were felt to relate positively to high sociability. Additionally, the "group dependence, joiner" characteristics of Factor

TABLE 1

WESSMAN AND RICKS MOOD SCALES AND ASSOCIATED 16 PF SCALES

MOOD I Harmony vs. Anger (how well you got along with, or how angry you felt toward other people)

- Factor F (+) Sober (Desurgency) vs. Happy-go-Lucky (Surgency)
- Factor I (+) Tough-minded vs. Tender-minded

MOOD II Sociability vs. Withdrawal (how socially outgoing or withdrawn you felt today)

- Factor A (+) Reserved vs. Outgoing
- Factor F (+) Sober (Desurgency) vs. Happy-go-Lucky (Surgency)
- Factor H (+) Shy vs. Venturesome
- Factor Q_2 (-) Group Dependent vs. Self-sufficient
- Factor Q_I (+) Introversion vs. Extraversion

MOOD III Tranquility vs. Anxiety (how calm or troubled you felt)

- Factor C (+) Affected by Feelings vs. Emotionally Stable
- Factor O (-) Placid vs. Apprehensive
- Factor Q_4 (-) Relaxed vs. Tense
- Factor Q_{II} (-) Low Anxiety vs. High Anxiety

MOOD IV Impulse Expression vs. Self-Restraint (how expressive and impulsive or internally restrained and controlled you felt)

- Factor F (+) Sober (Desurgency) vs. Happy-go-Lucky (Surgency)
- Factor G (-) Expedient (Weaker Superego Strength) vs. Conscientious (Stronger Superego Strength)
- Factor Q_3 (-) Undisciplined self-conflict vs. Controlled

MOOD V Self-Confidence vs. Feelings of Inadequacy (how self-assured and adequate, or helpless and inadequate, you felt)

- Factor H (+) Shy vs. Venturesome
- Factor O (-) Placid vs. Apprehensive

MOOD VI Elation vs. Depression (how elated or depressed, happy or unhappy, you felt)

- Factor F (+) Sober (Desurgency) vs. Happy-go-Lucky (Surgency)
- Factor O (-) Placid vs. Apprehensive

Q_2 seemed to correspond more with a tendency for sociability as opposed to withdrawal.

Mood Scale III (Tranquility vs. Anxiety) seemed synonymous with 16 PF scales Q_{II} (Low Anxiety vs. High Anxiety), Q_4 (Relaxed vs. Tense) and O (Placid vs. Apprehensive). Additionally, Factor C (Affected by Feelings vs. Emotionally Stable) with its attendant qualities of "lower ego strength and being fretful" seemed to bear a positive relationship with the "troubled, jittery, worried" components of Mood Scale III.

Impulse Expression vs. Self-Restraint (Mood Scale IV) was felt to directly correspond with 16 PF scale Q_3 (Undisciplined self-conflict vs. Controlled). The "weak ego strength, unconscientious" attributes contained in 16 PF factor G (Expedient vs. Conscientious) seemed to relate rationally to the dimension of impulsiveness contained in Mood Scale IV. Similarly, elements of "expressiveness and impulsivity vs. restraint vs. prudence" are tapped in 16 PF Scale F.

Mood Scale V (Self-Confidence vs. Feelings of Inadequacy) could be positively related to the "venturesome, socially bold" vs. "timid, inferiority feelings" continuum measured by 16 PF Scale H (Shy vs. Venturesome). Similarly, 16 PF Scale O (Placid, untroubled adequacy vs. Apprehensive, self-reproaching) seemed to be tapping the "confidence, self-assurance" vs. "feelings of inadequacy and incompetence" of Mood Scale V.

Finally, Mood Scale VI (Elation vs. Depression) was rationally related to 16 PF factors F (Desurgency vs. Surgency) and O (Placid vs. Apprehensive). Both 16 PF scales measure depression, pessimism and seriousness.

Procedure

Subjects met in 3 groups of 20 with the experimenter to obtain data sheets and to fill in a brief questionnaire (Appendix 3). A list of suggestions to facilitate dream recall (derived from Faraday, 1972) was presented to the subjects at this first meeting (Appendix 4). Subjects were asked to supply the following:

1. Daily mood ratings using the six following Wessman and Ricks (1966) Personal Feelings Scale.

   I. Harmony vs. Anger

   II. Own Sociability vs. Withdrawal

   III. Tranquility vs. Anxiety

   IV. Impulse Expressions vs. Self-Restraint

   V. Self-Confidence vs. Feelings of Inadequacy

   VI. Elation vs. Depression

   These scales appear in Appendix 1 while the mood rating sheets appear in Appendix 5. The Personal Feeling Scales are a battery of 10-point self-rating affect scales containing descriptive statements encompassing a broad and graduated range of feelings. An additional "Does Not Apply" category was also available to the subjects.

   Subjects rated their 1) high, 2) average, and 3) low levels for each of the six mood scales as soon as possible before bedtime.

2. One written dream narrative, to be recorded in as much detail as possible upon awakening each morning. Subjects were given daily dream record sheets (Appendix 6) on which they were asked to rate their moods as experienced in the

dream in the same manner as described for daily moods (above). Subjects were instructed to write "No Recall" on the dream record sheet if unable to remember a dream on a given morning.

Subjects met with the experimenter in brief, weekly sessions (of 20 subjects each) to turn in completed data sheets and to receive a new data packet for the following week. These weekly meetings were intended additionally to increase experimental control and to facilitate the subjects' motivation in providing data. During the third week of collection, subjects filled out the Sixteen Personality Factor Questionnaire (16PF - Forms C and D). Subjects met for a fourth week to turn in data and receive a brief rationale for the study including discussion of some of the major hypotheses being explored.

Fifty of the initial subjects (25 male, 25 female) who signed up for the experiment completed the entire four weeks of data collection. These subjects produced a total of 346 dreams with a range of from 0 to 16 dreams per subject. A frequency plot, illustrating the distribution of dream recall frequency for all subjects is presented in Appendix 7. To qualify as a dream an operational requirement of at least three sentences in length and ability for subject to rate the dream on at least one mood dimension was instituted. Subjects averaged 27 days of data recording. Although some subjects with as few as 19 days of data recording were included in the analysis, 80% of the subjects returned complete data sets (28 days).

Of the total 50 subjects, 41 subjects recorded at least 4 dreams over the 28 day collection period. Thirty-five of these subjects were selected on a semi-random basis for inclusion in judges' ratings of

dream moods. Criteria for selection involved sorting subjects into three categories based on the length of their dream narratives. The first four dreams recorded by the subjects were extracted for analysis. Based on typed lines of 75 spaces each, cutoffs for short, medium and long dream reports were established. Groups were formed by combining the lengths of all four dreams. Short, medium and long dream length subjects were defined respectively as having less than 18 total lines, between 19 and 30 total lines, and over 30 lines. A representative sample of short, medium and long dream length subjects was assigned to each of five subject groups (in the proportion of 1-2: 4: 1-2). Subjects were assigned additionally on the basis of sex (three to four males/females per group).

Judges

A total of 12 judges were randomly assigned to 5 judge groups. Two judge groups contained three judges each while the other three groups were comprised of two judges each. The judges included seven Ph.D. psychologists, three clinical psychology graduate students, one R.N. Family Therapist and one non-psychologist adjunct member of the psychology faculty. All judges had at least a passing interest in dreams and three had participated in a pilot study on dream ratings preparatory to the present research.

The pilot study was initiated in order to iron out any difficulties judges might experience with the instructions and to determine if judges could rate dream reports reliably. The dreams used were taken from a previous research project. An acceptable level of agreement was obtained and rating examples were derived from the pilot ratings for which there was uniform agreement.

Each of the five judge groups was randomly assigned to rate subjects from one of the five subject groups described earlier. That is, each individual member of a given judge group rated seven subjects which were common to the other judges in that judge group. For each of the four dreams of each subject, judges were asked to rate the expressed or implied mood level in the dream narrative. Judges were to make their ratings based on the six previously mentioned Wessman and Ricks Personal Feeling Scales. Judges therefore assigned ratings on a 10-point scale to each individual dream of each subject for each of the six moods. If a given mood could not be evaluated, judges were instructed to assign a neutral rating of "5."

Additionally, judges were asked to consider the four dreams as a whole and infer a "trait level" as suggested by the four dreams. Judges rated blindly and were informed only of the sex of the dreamer.

For both the individual dream ratings and the dream "trait" ratings, judges were asked to assign a level of confidence for their rating. Judges employed a 5-point scale ranging from "very uncertain" to "very certain." The complete instructions given to judges are presented in Appendix 8.

RESULTS

Of the 345 dreams recorded overall for 50 subjects, males averaged 7.2 dreams (180 total, standard deviation = 3.2) and females averaged 6.6 dreams (166 total, standard deviation = 3.7). Accounting for the fact that some subjects had missing data, the probability of dream recall for males and females was .32 and .31 respectively.

Mood and Dream Recall

Several correlational analyses were conducted relating number of dreams to selected mood and personality variables. Although the mood and personality data approximate interval scaling which would justify parametric correlation, it was felt that the Spearman rank correlational statistic would be better suited to the data and not result in a significant loss in efficiency (Hotelling and Pabst, 1936; cited in Siegel, 1956). All correlational analyses utilized the Spearman statistic unless otherwise noted.

Frequency of dream recall was correlated with the means of 36 variables representing the subjects' high, medium and low levels for the 6 day and dream mood dimensions over 28 days of data collection. Four correlations were significant and these appear in Table 2. Inspection of these data show only significant correlations for Day Mood IV and only for males.

The two measures of daily mood variability given in Table 2 were examined for their relation to dream recall. One measure was the

TABLE 2

SIGNIFICANT SPEARMAN RANK CORRELATIONS FOR NUMBER OF DREAMS WITH MOOD AND PERSONALITY VARIABLES

	All Ss	Males	Females
Means of Day and Dream Mood Level Over 28 Days			
Day Mood IV			
- High rating		-.48**	
- Medium rating		-.50**	
- Low rating		-.35*	
Dream Mood V			
- Low rating	.34*		
Mood Variability			
1) Standard deviation of "overall" (medium) mood level:			
Day Mood I		.50**	
2) Mean range (High-Low level):			
Dream Mood II	-.34*		-.43*
16 PF Variables			
M (Practical vs. Imaginative)	-.41*		-.48**
Q_1 (Conservative vs. Experimenting)	.34*		

* $p < .05$
** $p < .01$

standard deviation of the subjects' ratings of their overall (medium level) daily mood level over the entire data collection period. Only Mood I (medium level) was significantly correlated with frequency of dream recall and then only for males.

As subjects were rating daily moods on a high, medium and low basis, mood variability based on the difference between high and low daily ratings was also examined. The average daily range between subject's high and low mood ratings was computed for the 28 data collection days and correlated with number of dreams. This second measure of mood variability yielded two significant correlations which also appear in Table 2.

Finally, shown in Table 2 are all 16 PF variables correlated with number of dreams. Three significant correlations were found and are presented in Table 2 for all subjects and by sex.

A chi-square analysis was performed to test whether significant daily deviations from an individual subject's mean mood level (state change) was related to dream recall. Daily mood values which were 2 standard deviations above and below the subject's 28 day means for high, medium and low mood level were isolated and evaluated against the presence or absence of dream recall. For each subject then, significantly deviant daily mood values were compared with the presence or absence of dream recall for each mood dimension. Deviant values from the average high, medium and low levels for each mood dimension were computed separately but were considered together for the purpose of the chi-square analysis. Recall vs. no recall frequencies of individual subjects were compiled resulting in summated frequencies for each sex. Appendix 9 shows two-celled contingency tables were set up comparing,

for example, males' observed frequencies of dream recall vs. no recall following days of significant variation of Mood I with the overall frequency of dream recall (i.e., 32 for males).

Included in the analysis were days in which the range between high and low mood levels were two standard deviations greater than the subject's average range (High Variability) and less than the subject's average range (Low Variability). There were four significant chi-square results, all for males. Males were significantly more likely to dream on nights following significant daily deviations on Mood I ($X^2 = 4.01$, $p < .05$), Mood V ($X^2 = 4.34$, $p < .05$), and Mood VI ($X^2 = 4.07$, $p < .05$). Additionally, days with abnormally low variability on Mood IV were significantly associated with less dream recall than expected ($X^2 = 6.35$, $p < .02$).

While subjects were not absolutely equally represented in the above calculations, inspection of the data revealed that no subject was grossly overrepresented. It was felt that a chi-square analysis, while not strictly theoretical appropriate, would provide the most useful empirical information.

Daily Mood and Dream Moods

In order to more fully describe the mood scores, measures of day to day consistencies in day and dream moods were obtained. For all three levels (high, medium, low) of each mood dimension, the summated mood ratings of the first and third dreams were correlated with the summated mood ratings of the second and fourth dreams. Pearson product moment correlations were computed for subjects with four or more dreams. For the day moods, the same procedure was used. Summated mood ratings of the eighth and tenth day were correlated with the summated mood

ratings of the ninth and eleventh day. These correlations appear in Table 3. Day mood consistencies were significant in 15 of 18 correlations for males and 9 of 18 correlations for females. These correlations suggest considerable "trait-like" stability in day mood ratings. For dream moods, however, no significant correlations were obtained for males or females. That is, ratings of dream moods from dream to dream were very inconsistent or labile.

Before retiring each evening, subjects rated their daily mood levels on six different mood dimensions (on the Wessman and Ricks Personal Feeling Scales). Each mood had three levels: high, medium and low. The corresponding moods were also rated for each following night's dream (if available) at the same three levels. The ranges (differences between high and low levels) were also calculated for each of the six moods for each day and night. For each mood dimension then, four day mood variables (high, medium, low and range) could be correlated with the four corresponding dream mood variables.

A series of six correlational matrices was computed for each subject in which the high, medium, low and range levels for each of the six day mood dimensions were correlated in all possible pairwise combinations with the corresponding levels on the same six dream mood dimensions. That is, six 4 x 4 correlational matrices were computed for each subject, one for each mood dimension yielding 96 correlations per subject. The number of significant correlations for each subject served as a measure of the tendency to incorporate daily moods into the moods of that night's dream.

Since each subject would be expected to yield approximately five significant correlations by chance alone, subjects were divided into

TABLE 3

CONSISTENCY COEFFICIENTS FOR DAY AND DREAM MOODS

		MOOD I			MOOD II			MOOD III			MOOD IV			MOOD V			MOOD VI		
		H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
DAY MOODS	N																		
Males	20	.43	.70**	.45	.67**	.72**	.58**	.64**	.45	.57**	.77**	.74**	.69**	.76**	.69**	.63**	.68**	.78**	.71**
Females	19	.77**	.24	.14	.86**	.52**	.65**	.57**	.34	.39	.81**	.72**	.83**	.62**	.23	.08	.58**	.24	.33
DREAM MOODS	N																		
Males	19	.20	.14	-.03	.02	-.45	-.44	.34	.14	-.17	-.13	.24	.18	-.02	-.33	-.18	-.14	-.15	.02
Females	19	-.11	.25	.16	.29	.37	.06	-.15	.33	.34	.00	-.05	.18	-.14	.00	-.03	.17	.34	.06

* $p < .05$

** $p < .01$

two groups. These two groups were formed to assess whether personality factors were related to incorporating day moods into dream moods. The groups consisted of subjects who had 6 or more significant correlations (9 males, 12 females) or 5 or less (13 males, 8 females). A comparison of the means of all 16 PF variables for these 2 groups, even when sorted by sex, resulted in no significant differences. Excluded from this analysis were three males and five females who had three dreams or less over the entire collection period.

Table 4 shows a Spearman rank correlational analysis done on extreme daily mood levels (two standard deviations or more above the subject's mean) and that night's corresponding dream mood level. These analyses were computed separately for men and women for each mood scale. Males and females yielded two and three significant correlations, respectively, all of which were positive. Included in Table 4 are the number of mood level pairs used in the correlations.

Mood and Personality Traits

In order to assess the relationship between day and dream moods and personality traits, the rationally derived correspondences between the Wessman and Ricks Personal Feeling Scales and the 16 PF (previously presented in Table 1) were utilized. Correlations were obtained between subjects' mean high, medium and low daily and dream mood levels with selected 16 PF factors.

Spearman rank correlations for all subjects yielded only two significant correlations with 16 PF factors. The range for Day Mood III (Tranquility-Anxiety) correlated positively with both Q_4 (.37, $p < .007$) and Q_I (.29, $p < .03$). These correlations were derived from a matrix consisting of 136 correlations. Separate analyses by sex were computed

TABLE 4

CORRELATIONAL ANALYSIS FOR SIGNIFICANTLY DEVIANT DAY MOOD LEVELS AND DREAM MOOD LEVEL

	N	MALES	N	FEMALES
Mood I	75	.27**	43	.09
Mood II	60	.33***	34	.00
Mood III	54	.20	48	.35**
Mood IV	56	-.06	36	.36*
Mood V	62	.28*	43	.42***
Mood VI	68	-.02	37	.55****

* $p < .05$
** $p < .02$
*** $p < .01$
**** $p < .001$

resulting in several significant results at the .05 level, particularly for females. Only 3 of a total of 57 significant correlations were not in the predicted direction. Males and females yielded 17 and 40 significant correlations, respectively, of which 12 were shared by males and females. These shared correlations, all of which were in the predicted direction, include factors F, Q_2, and Q_I with Mood II; factor C with Mood III; factor Q_3 with Mood IV; and factors F and O with Mood VI. Tables 5 and 6 present the significant mood- 16 PF correlations for males and females. Males and females respectively had 10 and 29 significant correlations with day moods and 7 and 10 significant correlations with dream moods.

When the .01 level of significance is used as a cutoff, males and females yielded 3 and 19 significant correlations. These include 16 significant correlations with day moods and only 6 correlations with dream moods. Only one of these correlations was not in the predicted direction.

Judges' Ratings

It will be recalled that judges were divided into five groups with each judge group rating a common set of seven subjects. For each subject, judges rated four individual dreams on each of the six ten-point Wessman and Ricks mood scales. In addition, judges assigned a "trait rating" for each of the six mood scales based on considering the four dreams as a whole. Because each judge group rated common subjects, estimations of inter-rater reliability were possible. The procedure used for estimating the reliability of judges' ratings was the intraclass correlation coefficient (as described in Bartko, 1966; Ebel, 1951).

TABLE 5

CORRELATIONAL MATRIX FOR MEAN DAY AND DREAM MOOD LEVELS AND SELECTED 16 PF FACTORS

MALES

			DAY				DREAM			
MOOD-	16PF	Predicted Direction	High	Medium	Low	Range	High	Medium	Low	Range
I.	F	+	----	----	----	----	----	----	-.33*	----
	I	+	----	----	----	----	----	----	.42*	----
II.	A	+	----	----	----	----	----	----	----	----
	F	+	.39*	----	----	----	----	----	----	----
	H	+	----	----	----	----	----	----	----	----
	Q_2	-	-.43*	----	----	----	----	----	----	----
	Q_I	+	.58**	.49**	.42*	----	----	----	----	----
III.	C	+	.40*	.38*	----	----	.40*	----	----	.46*
	O	-	----	----	----	----	----	----	----	----
	Q_4	-	----	----	----	----	----	----	----	----
	Q_{II}	-	----	----	----	----	----	----	----	----
IV.	F	+	----	----	----	----	----	----	----	----
	G	-	----	----	----	----	----	----	----	----
	Q_3	-	----	----	-.38*	----	----	----	----	----
V.	H	+	----	----	----	----	----	----	-.42*	----
	O	-	----	----	----	----	----	----	----	----
VI.	F	+	.40*	.39*	----	----	----	----	----	----
	O	-	----	----	----	----	-.46*	-.53**	----	----

* $p < .05$

** $p < .01$

TABLE 6

CORRELATIONAL MATRIX FOR MEAN DAY AND DREAM MOOD LEVELS AND SELECTED 16 PF FACTORS

FEMALES

			DAY				DREAM			
MOOD-	16PF	Predicted Direction	High	Medium	Low	Range	High	Medium	Low	Range
I.	F	+	.38*	----	----	----	----	----	----	----
	I	+	----	.53**	----	----	----	----	----	----
II.	A	+	.50**	.46*	----	----	----	----	----	----
	F	+	.44*	.46*	----	----	----	----	----	----
	H	+	.57**	.60***	----	----	----	----	----	----
	Q_2	-	-.59**	-.51**	----	-.50**	----	----	----	-.40*
	Q_I	+	.63***	.58**	----	.45*	----	----	----	----
III.	C	+	.59**	.54**	----	.40*	----	----	----	.36*
	O	-	----	----	----	----	-.45*	-.45*	----	----
	Q_4	-	----	----	----	----	----	----	----	----
	Q_{II}	-	-.45*	-.44*	----	----	----	----	----	----
IV.	F	+	.39*	----	----	----	----	----	----	----
	G	-	----	----	----	----	----	----	----	----
	Q_3	-	----	----	-.44*	.64***	----	----	----	----
V.	H	+	.70***	.76***		.41*	----	----	----	----
	O	-	-.39*	-.44*	----	----	-.52**	-.58**	-.50**	----
VI.	F	+	.44*	.46*	----	----	----	----	----	----
	O	-	----	----	----	----	-.44*	-.50**	-.49**	----

* $p < .05$

** $p < .01$

*** $p < .001$

Intraclass correlation coefficients, which give essentially an average intercorrelation between all possible pairs of raters, were computed for the judges' "trait ratings" of subjects for each of the six mood scales. Reliability coefficients ranging from .03 to .90 were obtained for each of the five judge groups and are presented in Table 7. Thirteen out of 30 correlations were significant at the .05 level. Median coefficients, ranging from .42 to .69 are also presented in Table 7.

To determine whether judges' dream "trait ratings" were associated with independently measured personality traits (16 PF), correlations were computed utilizing the 16 PF-Personal Feeling Scales correspondences previously presented (Table 1). Spearman rank correlation coefficients between judges' "trait ratings" and associated 16 PF traits are presented in Table 8. Correlations appear for each individual judge with designations for the five judge groups. In all, 35 subjects are represented in the correlations. While only 5 correlations were significant beyond the .01 level of significance, 28 correlations were significant at the .05 level.

It was felt that the low reliability for some judge groups may have detracted from the correlations between judges' "trait ratings" and 16 PF scores. In order to maximally consider the relationship between judges' "trait ratings" and 16 PF scores, a correlational analysis was done using only the mood ratings which were significantly reliable ($p < .01$). The mood ratings expected were as follows:

Judge Group 1	Moods I, III, V
Judge Group 2	Mood II
Judge Group 3	Moods I, III
Judge Group 5	Mood VI

TABLE 7

INTRACLASS RELIABILITY COEFFICIENTS FOR JUDGES' DREAM "TRAIT" RATINGS

JUDGE GROUP	MOOD I	MOOD II	MOOD III	MOOD IV	MOOD V	MOOD V
1	.78****	.58**	.90****	.48	.68***	.33
2	.30	.63**	.49	.53*	.58*	.47
3(x)	.78**	.49	.83***	.59	.56	.62*
4(x)	.21	.56	.38	.03	.26	.32
5(x)	.42	.57	.69*	.12	.37	.78**
Median	.42	.57	.69	.48	.56	.47

* $p < .05$

** $p < .01$

*** $p < .005$

**** $p < .001$

(x) Judge groups 3-5 composed of 2 members each

TABLE 8

CORRELATIONAL MATRIX FOR DREAM "TRAIT" RATINGS
AND SELECTED 16 PF FACTORS

Mood-	16PF	Predicted Direction	GROUP 1 J-1	J-2	J-3	GROUP 2 J-4	J-5	J-6
I.								
	F	+	.08	-.33	.29	.43	.22	.23
	I	+	-.75*	-.72*	-.83*	.55	.84*	.30
II.								
	A	+	-.34	-.24	-.14	.18	.76*	.08
	F	+	-.84*	-.67	-.55	.43	.46	.11
	H	+	-.30	-.69	.20	.43	.60	.41
	Q_2	-	.20	.06	-.11	-.46	-.71*	-.21
	Q_I	+	-.34	-.60	.05	.49	.92**	.10
III.								
	C	+	-.30	-.32	-.49	-.10	.52	.70*
	O	-	-.40	-.43	-.22	.21	.11	.30
	Q_4	-	-.58	-.52	-.37	-.37	.41	.26
	Q_{II}	-	-.38	-.28	-.09	-.13	.08	-.14
IV.								
	F	+	-.31	-.65	.39	.48	-.11	.13
	G	-	-.89**	-.72*	-.11	-.75*	-.47	-.40
	Q_3	-	-.14	.44	-.09	-.58	-.40	-.21
V.								
	H	+	-.50	-.34	.40	-.22	.00	-.18
	O	-	-.75*	-.71*	-.90**	.18	.34	.33
VI.								
	F	+	-.51	-.40	-.67	.64	.48	.00
	O	-	-.88*	-.42	-.17	.13	.45	.00

*p <.05
**p <.01

TABLE 8 (Cont'd)

CORRELATIONAL MATRIX FOR DREAM "TRAIT" RATINGS
AND SELECTED 16 PF FACTORS

Mood-	16PF	Predicted Direction	GROUP 3 J-7	GROUP 3 J-8	GROUP 4 J-9	GROUP 4 J-10	GROUP 5 J-11	GROUP 5 J-12
I.								
	F	+	.22	.43	.24	-.72*	-.83*	-.41
	I	+	.30	.16	.27	-.38	-.32	-.29
II.								
	A	+	.49	.53	-.24	.37	.49	.80*
	F	+	-.17	.49	-.48	.15	.35	.39
	H	+	.20	-.53	-.13	.51	-.65	-.48
	Q_2	-	.41	.48	-.14	-.17	.06	-.30
	Q_I	+	-.12	.09	.14	.73*	.32	.44
III.								
	C	+	-.22	-.51	-.84*	.09	.87*	.53
	O	-	-.12	.07	.49	-.12	-.62	-.39
	Q_4	-	.29	.34	.68	-.18	-.73*	-.61
	Q_I	-	.33	.40	.74*	.09	-.94**	-.70*
IV.								
	F	+	.75*	.28	-.94**	.58	-.15	-.45
	G	-	-.09	-.61	.57	.21	.46	-.62
	Q_3	-	.08	.31	-.69	.14	.51	-.25
V.								
	H	+	-.42	-.17	.19	.39	.55	-.55
	O	-	.40	.32	.07	.21	.14	.11
VI.								
	F	+	.23	.50	.13	-.72*	-.55	-.33
	O	-	.28	-.10	.12	.65	.32	.12

* $p < .05$
** $p < .01$

This correlational analysis thus included ratings for all moods except Mood IV (Impulsiveness vs. Self-restraint). Mood values used in the correlations were the summed "trait ratings" of the members of a given judge group. In no case did the summed "trait ratings" correlate more highly with the associated 16 PF scores than the "trait rating" of the "best" individual member of a judge group. The correlations obtained are therefore not presented here.

DISCUSSION

In assessing the significance of the present findings, a few key points should be kept in mind. Several of the analyses performed on the data have employed a large number of correlations, thereby increasing the probability of obtaining chance correlations. As this problem can be corrected for in part by selecting a more stringent significance level, the .01 level of significance was adopted to assess most results. Occasionally correlations of interest which were significant at only the .05 level of significance are discussed. The greater probability that these results may be spurious should, however, be kept in mind.

Another important point to be kept in mind in these discussions is the question of sex differences. Although previous research has suggested sex differences related to dream content (Winget, Kramer & Whitman, 1972; Hall & Domhoff, 1963), it was felt that the general mechanism or psychodynamic function of dreams would be the same for both males and females. Separate analyses by sex were therefore designed as a replication paradigm with the knowledge that, in some ways, dream content may vary by sex. The possibility was also realized that mean mood and 16 PF values may be different for males and females. Separate analyses by sex minimized the likelihood that different mean values related to sex would confound the results.

In a few instances, however, it is clear that sex differences accounted for some failures in replication between males and females.

Inspection of the data revealed that women as a group were more variable than males (as indicated by standard deviation) in their ratings of day and dream mood as well as in their 16 PF scores. Women had higher standard deviations in approximately two-thirds of the instances for day moods, dream moods and 16 PF scores. It is therefore possible that the relative restriction of mood and 16 PF variability in males may have attenuated the correlations obtained for males. This issue will be discussed in further detail below.

Although several significant relationships were observed in the present study, the data included a preponderance of negative results. While it is tempting to grandly discuss the few significant findings with their implications, the overall nature of the data speaks more strongly to the lack of relationships observed. The following discussions will therefore attempt to consider individual significant results within the context of all the results obtained.

The Relationship of Mood and Personality Variables to Dream Recall

The probability of dream recall for the population under study is consistent with what has been reported previously in the literature (Webb & Agnew, 1973). It is therefore not unreasonable to assume that the present population is representative of the young adult population on at least the general mechanism of dream recall.

The data do not support the notion that personality traits are associated with dream recall. Although personality traits were quantified primarily by 16 PF factor scores in the present research, mean day mood levels computed over 28 days served as an additional trait measure. The high degree of day to day consistency in daily mood ratings (Table 3) strongly supports this conceptualization of day moods reflecting trait characteristics.

The correlational matrix comparing 28 day means for day and dream mood levels with number of dreams recalled yielded 36 correlations of which 2 were significant. Frequency of dream recall was significantly negatively correlated for males with Impulsiveness (Mood IV). Thus, males who tended to be more internally restrained and controlled reported more dreams. This result is contradicted by several studies comparing recall frequency with scores on the Repression-Sensitization scale of the MMPI. "Repressers" have consistently been shown to recall fewer dreams than "Sensitizers" (Domhoff & Gerson, 1975; Lewis, Goodenough, Shapiro & Sleser, 1966). Additionally, the 16 PF factor which corresponds to Mood IV (Factor Q_3, Undisciplined Self-conflict vs. Controlled; See Table 1) did not independently corroborate this observed relationship. Considering the absence of 16 PF corroboration and contrary indications in the literature, it seems most sensible to view the obtained significance with considerable caution.

Two of the selected 16 PF factors correlated significantly with dream recall over all subjects. Factor M (Practical vs. Imaginative) was negatively related to recall frequency. Subjects who were more imaginative, inner-directed and self-motivated reported less dreams than those who were more practical, careful and unimaginative. While this correlation was significant for all subjects at the .05 level, no correlation was found for males alone. The reported positive correlation for Q_1 (Conservative vs. Experimenting) signified that subjects who were more experimenting and skeptical tended to report more dreams. The correlation was significant for all subjects only at the .05 level and was not significant for males or females alone. The reported correlations for 16 PF factors M and Q_1 then, while significant, are not

particularly strong. It seems reasonable to conclude that the data do not convincingly support the notion that personality traits, as measured by the 16 PF or inferred through mean ratings of daily moods over an extended period have much to do with dream recall frequency.

The data, however, are moderately supportive of a positive relationship between dream recall and personality state change. The chi-square analyses of significant daily deviations from an individual subject's mean mood level address this issue. In these analyses, the overall frequency of dream recall (.32 for males, .31 for females) was used as the theoretical frequency of dream recall. For males only, Mood dimension V (Self-confidence vs. Feelings of Inadequacy) and Mood dimension VI (Elation vs. Depression) resulted in a significantly higher incidence of dream recall than expected. This relationship supports the view that on days when the individual is more "moody," dream recall is facilitated. Quite possibly, dreams occurring on the nights of moody days are more vivid or "salient" (Cohen & Wolfe, 1973), thus enhancing the chance of recall.

The above relationship observed for men is additionally supported by the finding that abnormally low mood variability (high mood level - low mood level) on a given day for Mood dimension IV for males resulted in a significantly lower incidence of recall than expected. That is, days which were significantly "unmoody" lessened the likelihood of subsequent dream recall.

The absence of a relationship between personality state change and dream recall for females seems puzzling. It is apparent from the data in Table 4 that females had fewer daily mood values which were two or more standard deviations from their individual means. Considering that

females were in general more variable in their mood ratings, it seems likely that females more frequently assigned extreme ratings to their daily moods. Consequently, the nature of each female's distribution of scores may have limited the number of daily ratings which were two or more standard deviations from their own individual mean.

It is possible that extreme daily moods were more unsettling for males due to their relatively low mood variability (as indicated by standard deviation). Extreme daily moods for women though may have been more commonplace and thus less unsettling. Mood swings for females could be seen then as more ego syntonic, requiring less psychological adaptation. Presumably, factors affecting recall (salience, restlessness during sleep) would be accordingly minimized.

The above discussion is supported by the positive relationship found for males (presented in Table 2) between dream recall frequency and the mean variability of Mood dimension I (Harmony vs. Anger). Males who fluctuated to a greater extent in how well they got along with others had significantly more dreams. Even though males were not that variable in their moods as a group, individual males who varied to a greater extent in getting along with others had significantly more dreams ($p < .01$). Factors affecting dream recall (salience, restlessness during sleep) presumably would be maximized for these males.

The Relationship Between Daily Mood and Dream Mood

It is apparent from the analyses of the day to day consistencies of day and dream mood (Table 3) that day mood ratings were highly stable while dream moods were quite unstable. Daily mood ratings therefore, because of their consistency over time, can be considered as enduring "trait-like" aspects of personality. By contrast, the dream mood

ratings, because of their instability, would seem to bear little relationship to personality traits. Because dream moods do not correlate with themselves, it could not be expected that they would correlate with anything else.

To look further into this issue, it was of interest to examine the process of incorporation of daily mood into the dream. One might expect considerable variability in the extent to which subjects' daily mood levels are directly represented or transformed in the dream. The series of correlational matrices comparing day mood variables (high, medium, low, and range for all six moods) with dream mood variables for all subjects did not reveal any personality trait differences between "incorporators" and "non-incorporators." A general relationship then between day mood and dream mood is not supported by the present research.

The data from Table 2, however, do suggest a continuity between dream mood and daily mood on days where a "state change" was observed. All significant correlations were positive, indicating that dream moods are related to and to some extent "carried over" from the day, but only if the dreamer was significantly "moody" during the day. The present data thus corroborate the findings of Piccione, Jacobs, Kramer and Roth (1977) that intense emotion experienced during the day is reflected in that night's dream.

Mood and Personality Traits

It is apparent from the data relating day and dream moods to personality traits as measured by the 16 PF that sex differences must be taken into account. The two significant correlations found with all subjects were not observed when analyses for each sex separately were conducted (Tables 5 & 6). Additionally, the obtained results run

contrary to theoretical expectation and are not supported by other data. It seems most reasonable to conclude that these correlations are a spurious consequence of computing a large correlation matrix.

Even though some of the significant mood-personality trait correlations were sex specific, several cross subject consistencies were noted. While females were found to produce significant 16 PF correlations in all six mood dimensions, males failed to produce significant correlations for Mood I (Harmony vs. Anger) and Mood V (Confidence vs. Inadequacy). Inspection of the data indicates that males were considerably less variable than females (standard deviation) in their ratings of daily moods for these two mood dimensions. The fact that males were more comparable with females in the variability of all other daily mood ratings is supportive of the interpretation that limited variability for males for Moods I and V attenuated these correlations.

Interestingly, both males and females produced significant negative correlations between Factor O (Placid vs. Apprehensive) and Mood VI (Elation vs. Depression) in their dreams yet not as a daily mood. While intriguing, the low between-dream consistencies noted earlier (Table 3) suggest that these significant correlations are most likely spurious. Due to theoretical interest and the fact that several of the correlations were significant at the .01 level, these dream mood relationships with the 16 PF will nevertheless be discussed.

The obtained correlations suggest that the "guilt proneness" quality of Factor O is represented in dream mood more than day mood. It is possible that while an individual may be consciously aware of daily "surgency-desurgency" (Factor F), the apprehensive, insecure, self-reproaching quality of Factor O is more readily expressed in dream

moods. Additionally, for females, Factor O correlated well with dream mood III (Tranquility vs. Anxiety) while not correlating with waking mood III. In fact, the data suggest that Factor O as a personality trait is better predicted from dream mood level than from mood level during waking, at least for females. Cattell (1970) notes that the person high in Trait O is "unable to sleep through worrying," broods often, and has an "emotionally deep sense of general unworthiness." It seems that when the person high in Factor O does get to sleep, considerable worrying and foreboding is carried over into the emotional tone of the dream. This observation is well supported by the bountiful literature on dream content in depressed patients (Hauri, 1976; Kramer et al., 1965).

For all other 16 PF factors it appears that day mood levels are much better correlated with personality traits than are dream moods. Indeed only 6 significant correlations with dream moods were observed while 16 correlations were noted with waking mood levels. Generally speaking, dream mood correlations were found to be in the same direction as day mood correlations, further implying some degree of continuity between day and dream moods. Dream moods may often be unrelated to daily moods yet there is little indication that dream moods are ever negatively related to daily mood.

In general, the obtained correlations between day mood ratings and 16 PF factors demonstrate moderate overlap. This implies a conceptual similarity between traits measured by the 16 PF and mean day mood levels considered over a 4 week period. The majority of significant correlations are derived from the "high" and "medium" (overall) mood ratings, both seeming to be equally good predictors of the associated 16 PF trait.

Obviously, stronger statements can be made for mood-16 PF relationships which were significant for both males and females. Discounting Moods I and V for males, where 16 PF factor variability was limited, males demonstrated relationships which were essentially the same as those of females.

Judges' Ratings

Taken as a whole, judge ratings of personality traits of subjects based on four dream reports were confusing. Using the .05 level of significance, judges rated significantly above chance, obtaining 28 significant correlations of which 18 were in the predicted direction. Few consistencies, however, were noticeable in the judges' ratings. While only five correlations were significant at the .01 level of significance, the .05 correlations were felt to warrant special interest.

As noted earlier, the low between-night consistencies in the subjects' own dream ratings argues against personality traits being represented in dream mood. The relative success of the judges in predicting traits from dreams is thus puzzling. It may well be that the judges are using other information besides mood, such as context or other content consistencies in their ratings. Despite the lack of consistency in the judges' performance, it is clear that many accurate discriminations were made.

Judges seemed relatively successful in their trait ratings of Sociability-Withdrawal (Mood II), Impulsiveness-Self Restraint (Mood IV), and Self-Confidence- Inadequacy (Mood V). Positive hits were obtained respectively in five of six, four of five, and three of three significant correlations.

Mood II and the associated 16 PF traits all encompass personality dimensions of Sociability-Withdrawal, Introversion-Extraversion. The generality of the judges' relative success in predicting this personality trait is tempered by the fact that three of the significant correlations came from one judge. Regardless, the results indicate that Factors A (Reserved vs. Outgoing) and Q_I (Introversion-Extraversion) were predicted from dreams with relative success.

The personality dimension of Impulsiveness-Restraint, Strong-Weak Superego strength are represented in Mood IV and the associated 16 PF traits. Predicted correlations of this personality trait with Factor G (Superego strength, Expedient vs. Conscientious) were obtained for three different judges. Interestingly, Factor G was not correlated with the subjects' own ratings of their day or dream moods suggesting that external judgments of Impulsiveness-Restraint based on dream moods may be more valid than the subjects' own ratings.

The other personality dimension which judges predicted with relative success was Mood V (Self-confidence vs. Feelings of Inadequacy) and Factor O (Placid, untroubled adequacy vs. apprehensive, guilt proneness). It is interesting that both judges' and subjects' ratings of dream Mood V correlated well with 16 PF factor O while the subjects' correlations with day Mood V were not significant. The provocative implication is that judges might be better able to predict apprehensive, brooding guilt proneness from a subject's dreams than from the subject's waking verbal content.

Judges seemed to have the most difficulty rating Mood I (Harmony vs. Anger) in that five of six significant correlations were in the "wrong" direction. Since subjects themselves did not relate their

dream moods on Mood I with the associated 16 PF factors an expected result would have been no relationship for the judges' ratings of Mood I. The several significant correlations thus are quite puzzling.

Of all the mood dimensions explored in the present research, Harmony-Anger seems conceptually linked least well to 16 PF factors. Individuals high on Factor F (Desurgency-Surgency) are described by Cattell (1970) as "happy-go-lucky, cheerful, active and enthusiastic," yet also "frank, expressive, impulsive and mercurial." These latter qualities could have been associated with a propensity to feel angry toward other people which would account for the negative correlations obtained.

Similarly, Factor I (Tough-minded vs. Tender-minded) lacks tight conceptual ties with Harmony-Anger. Individuals high on Factor I are described by Cattell (1970) as "kindly and gentle" yet also "sensitive, fussy, demanding of attention and impatient." Presumably these individuals could get quite ill-tempered if these needs were not met.

In summary, it appears that judges were able to assess personality traits from four dream narratives significantly above chance, but not in a very useful way. One third of the significant correlations were in the opposite direction from what was predicted. While 28 significant correlations were found overall, this represents an average of slightly more than 2 significant correlations for each judge. In fact, the "best" judge only managed four significant correlations that were in the predicted direction. For the mood-16 PF correlations which were significant for both males and females (and thus presumably representing a more general relationship), judges fared slightly better, with six of nine correlations being in the predicted direction. The trait ratings

were more accurate for these selected correlations, yet the correlations were not more plentiful.

When considered less critically, however, the judges' performance can be considered good, if not outstanding. After all, attempting to assess long-standing personality traits on the basis of four randomly selected dreams is certainly a demanding task. Given the extent to which the riddle of dreams has perplexed many over several centuries, it would have been unrealistic to have expected much better success from the judges.

The reliability coefficients for the raters are in general respectable though certainly not uniformly impressive. Of the median coefficients, Mood III (Anxiety vs. Tranquility) attained the highest level of reliability (.69). Clearly not all mood dimensions were equally reliable nor were judge groups equally successful. Mood IV (Impulsiveness vs. Self-restraint) was perhaps the most difficult scale to rate reliably. Judge groups 1, 2 and 3 rated at least 3 of the mood scales at a statistically reliable level.

Analysis of the judges' ratings revealed that some judges used a restricted range of values for their ratings, thus limiting the obtained correlations. On 12 occasions, the range of values assigned by a judge to 7 subjects was just 1, and in one case, the same rating was assigned to all 7 subjects. Clearly, the judges' performance could be expected to be better using a less conservative rating strategy.

Unfortunately, previous studies utilizing dream mood ratings have not reported reliability data. The present coefficients, however, are in line with what has been reported in the literature with regard to ratings of various need scales (Domino, 1976; Bender & Kramer, 1967;

Robbins, 1966). Presumably, judge reliability could be augmented with more systematic and comprehensive rating instructions.

Conclusions

One of the major questions addressed by the present research was exploring the extent to which dreams reflect state and trait components of personality. Mood was considered as a "barometer of the ego state" (Jacobsen, 1957) and reflective of psychodynamic change, thus particularly relevant to the study of personality states and traits. The initial part of this investigation explored the role of mood and personality variables on the phenomenon of dream recall. For the most part, frequency of dream recall seemed to be independent of long standing personality characteristics. Some support for increased recall following "moody days" was found for males only. While the "salience" of a dream may be greater in conjunction with a personality state change, enhanced recall may also be due to greater restlessness during sleep which could potentiate awakenings and thus facilitate dream recall.

The results indicate, though, that when a dream occurs following a personality state change, the mood level in the dream tends to parallel the daily mood level. While the obtained correlations account for a relatively small part of the variance and while sex differences were noted, the data support a continuity between day and dream feeling levels. If transformations occur in dreams, they are not likely to occur at a feeling level. It should be noted that the present data do not support a general continuous relationship between day and dream mood but just on days when the mood is atypical for the individual. While further study would be required to make a definitive statement, it is as if the atypical mood (personality state) presents the dreamer with

an unfinished emotional experience requiring adaptation. By carrying the mood over into the dream, the dreamer can re-experience and potentially adapt to or integrate the "unsettling" disequilibrium of the waking mood state.

It is apparent that the most useful measure of "personality state" in the present research was a rating 2 standard deviations from the subject's mean rating over the 28 day period. The use of "high" and "low" daily mood levels to indicate state aspects was not found to be useful. This may be due to the fact that "high" and "low" ratings could be highly transient, lasting but a moment, and not necessarily represent a significant state change.

Considerable overlap between day mood ratings and associated 16 PF factors was observed in the present study, particularly for females. As noted before, males evidenced less variability in their reported mood levels which in all likelihood attenuated the obtained correlations. It is possible that the males in the present study typified the frequent conception of the male as relatively insensitive and unaware of gradations of affect. At any rate, the data suggest that the concept of personality trait as defined by the 16 PF and by the average of daily mood ratings are reasonably equivalent. Furthermore, day mood ratings alone, by virtue of their considerable consistency over days, were strongly "trait-like" in nature.

The present research suggests that dream moods better reflect personality states. This conclusion is consistent with the notion that dreams primarily aid in the processing of information which the individual has difficulty assimilating. Personality states, by definition, are foreign or at least atypical to the dreamer and tend to be

represented in the night's dream. By contrast, someone who is chronically angry, for example, would not need to assimilate or process daytime feelings of anger. Put in another way, dreams deal with emotional material that is ego dystonic.

Inferring enduring personality traits blindly from 4 dreams was certainly shown in the present research to be tricky business. Although judges demonstrated the ability to correlate dream moods with 16 PF traits well above chance, the few consistencies noted in the judges' "successful" ratings limit the formation of clear-cut conclusions. Clearly further inquiry is needed to better understand the parameters of assessing personality through dream content, particularly expressed feelings in dreams.

As noted before, the task set before the judges was a prodigious one. Reliably deriving personality traits from four random segments of impressionistic verbal behavior is, on the face of it, a rather pompous undertaking. Obviously the clinical relevance of such data, while minimal in isolation, could become considerably more useful in conjunction with other clinical material. As well, accuracy of prediction of personality features may well be enhanced solely by utilizing a greater number of dreams from which to make judgements.

All in all, the present research suggests promising possibilities for diagnosing personality by focusing on the moods present in manifest dream content. The paucity of research examining mood in dreams is surprising in the face of the strong theoretical statements that have been made concerning the role of feeling in dreams (Bonime, 1962; Freud, 1950). The wealth of research evidence supportive of an information processing-adaptation function of dreams (Greenberg & Pearlman,

1974) predicts that dreams deal primarily with difficult emotional adaptation. If this is true and if "the affects of the dream-thoughts undergo slighter alterations than their conceptual content" (Freud, 1950), it is clear that much stands to be learned by devoting greater attention to dream moods.

It is difficult to discern the extent to which varying patterns and relationships for individual subjects may have obscured the uncovering of general relationships for all subjects. Research on the manifest dream has seldom utilized single subject methodology, although this has been shown to be a fruitful approach (Bell & Hall, 1974). Proceeding inductively with many corroborative psychometrics as well as clinical material may elucidate more clearly general waking-dreaming relationships.

Clinical implications of the present research point toward devoting special attention to dreams which follow particularly moody days. The dreamer can examine how the mood is expressed in the dream together with its enactment and consequences. If the dreamer can accept the dream as a new or different experience or perspective relative to the dreamer's conception of himself, psychological growth, or at least a restoration of equilibrium, may be achieved.

The present research also supports the notion that most essential personality information can be learned about an individual through direct waking verbal content. A rigid adherence to using dreams in psychotherapy would seem unnecessary and probably counterproductive. Dreams seem most useful for understanding personality dynamics at times when therapeutic progress is slowed due to resistance, conscious avoidance or other obscurities. This seems particularly true when anxiety

and depression are components of the clinical picture. In these and other instances the therapeutic use of dreams offers the individual a different perspective and experience, fostering richer conceptions of capabilities, potentials, and solutions.

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APPENDIX 1

PERSONAL FEELING SCALES

I. Harmony vs. Anger (how well you got along with, or how angry you felt toward other people).

9) Boundless good will and complete harmony.
8) Enormous good will and great harmony.
7) Considerable good will.
6) Get along well and rather smoothly.
5) Get along pretty well, more or less good feeling.
4) A little bit annoyed, somewhat "put out," Minor irritations.
3) Annoyed, irritated, provoked.
2) Very angry. Ill will.
1) Enraged. Seething with anger and hostility.
0) Violent hate and fury. Desire to attack, destroy.

II. Own Sociability vs. Withdrawal (how socially outgoing or withdrawn you felt today).

9) Immensely sociable and outgoing.
8) Highly outgoing, congenial and friendly.
7) Very sociable and involved in things.
6) Companionable. Ready to mix with others.
5) Fairly sociable. More or less accessible.
4) Not particularly outgoing. Feel a little bit sociable.
3) Retiring, would like to avoid people.
2) Feel detached and withdrawn. A great distance between myself and others.
1) Self-contained and solitary.
0) Completely withdrawn. Want no human contact.

III. Tranquility vs. Anxiety (how calm or troubled you felt).

9) Perfect and complete tranquility. Unshakably secure.
8) Exceptional calm, wonderfully secure and carefree.
7) Great sense of well-being. Essentially secure, and very much at ease.
6) Pretty generally secure and free from care.
5) Nothing particularly troubling me. More or less at ease.
4) Somewhat concerned with minor worries or problems. Slightly ill-at-ease, a bit troubled.
3) Experiencing some worry, fear, trouble, or uncertainty. Nervous, jittery, on edge.
2) Considerable insecurity. Very troubled by major worries and fears.
1) Tremendous anxiety and concern. Harassed by major worries and fears.
0) Completely beside myself with dread, worry, fear. Overwhelmingly distraught and apprehensive. Obsessed or terrified by insoluble problems and fears.

IV. Impulse Expression vs. Self-Restraint (how expressive and impulsive or internally restrained and controlled, you felt).

9) Wild and complete abandon. No impulse denied.
8) Exhilarating sense or release. Say whatever I feel, and do just what I want.
7) Quick to act on every immediate desire.
6) Allowing my impulses and desires a pretty free rein.
5) Moderate acceptance and expression of my own needs and desires.
4) Keep a check on most whims and impulses.
3) On the straight and narrow path. Keeping myself within strong bounds.
2) Obeying rigorous standards. Strict with myself.
1) Refuse to permit the slightest self-indulgence or impulsive action.
0) Complete renunciation of all desires. Needs and impulses totally conquered.

V. Self-Confidence vs. Feelings of Inadequacy (how self-assured and adequate, or helpless and inadequate, you felt).

9) Nothing is impossible to me. Can do anything I want.
8) Feel remarkable self-assurance. Sure of my superior powers.
7) Highly confident of my capabilities.
6) Feel my performance and capabilities and my prospects good.
5) Feel fairly adequate.
4) Feel my performance and capabilities somewhat limited.
3) Feel rather inadequate.
2) Distressed by my weakness and lack of ability.
1) Wretched and miserable. Sick of my own incompetence.
0) Crushing sense of weakness and futility. I can do nothing.

VI. Elation vs. Depression (how elated or depressed, happy or unhappy, you felt).

9) Complete elation. Rapturous joy and soaring ecstasy.
8) Very elated and in very high spirits. Tremendous delight and bouyancy.
7) Elated and in high spirits.
6) Feeling very good and cheerful.
5) Feeling pretty good, "O.K.."
4) Feeling a little bit low. Just so-so.
3) Spirits low and somewhat "blue."
2) Depressed and feeling very low. Definitely "blue."
1) Tremendously depressed. Feeling terrible, miserable, "just awful."
0) Utter depression and gloom. Completely down. All is black and leaden.

APPENDIX 2

CAPSULE DESCRIPTIONS OF SELECTED 16 PF FACTORS

(low score)	(high score)
FACTOR A	
Reserved, detached, critical cool skeptical, aloof	Outgoing, warm-hearted, easy going, participating
FACTOR C	
Affected by Feelings, easily upset, fretful, low frustration tolerance	Emotionally Stable, calm mature, unruffled, higher ego strength
FACTOR F	
Sober (Desurgency), prudent, serious, taciturn, restrained, reticent introspective, dour	Happy-go-lucky, (Surgency), enthusiastic, active, frank, expressive, impulsive, merciful
FACTOR G	
Expedient (Weaker superego strength), evades rules, casual	Conscientious (Stronger Superego strength, staid persevering, rule bound
FACTOR H	
Shy, restrained, timid, withdrawing, inferiority feelings	Venturesome, socially-bold, uninhibited, spontaneous, pushy
FACTOR I	
Tough-Minded, self-reliant, practical, realistic, smug, cynical	Tender-minded, dependent, sensitive, fastidious, demanding of attention, impatient, fussy

FACTOR M

Practical, careful, proper, conventional, unimaginative	Imaginative, absent-minded, self-motivated, inner directed

FACTOR O

Placid, self-assured, confident, serene, secure, untroubled adequacy	Apprehensive, worrying, depressive, troubled, moody, brooding, full of foreboding, self-reproaching

FACTOR Q_2

Group Dependent, a joiner, group adherence	Self-Sufficient, resourceful, prefer own decisions

FACTOR Q_3

Undisciplined self-conflict, follows own urges, careless of protocol	Controlled, socially precise, strong control of emotions, socially aware and careful

FACTOR Q_4

Relaxed, tranquil, torpid, sedate, composed, unfrustrated	Tense, driven, overwrought, frustrated, excitable, restless, fretful, impatient

FACTOR Q_I

Introversion, shy, self-sufficient, interpersonally inhibited	Extraversion, socially outgoing, uninhibited

FACTOR Q_{II}

Low Anxiety, adjustment, satisfied	High Anxiety, dissatisfied

APPENDIX 3

QUESTIONNAIRE

Name:_____

1) Check 1 ___ I usually remember my dreams
___ I sometimes remember my dreams
___ I hardly ever remember my dreams

2) I can usually remember a dream about ___ nights per week

CHECK ALL OF THE FOLLOWING WHICH APPLY:

___ 3) I like my dreams
___ 4) I wish I could remember more dreams
___ 5) I wish I didn't remember so many dreams
___ 6) I often have nightmares
___ 7) I often have the same dream over and over again
___ 8) I think dreams reveal our true psychological selves
___ 9) I think dreams are very interesting
___ 10) I think dreams are meaningless thoughts which occur during sleep
___ 11) I pay a lot of attention to my dreams
___ 12) I pay very little attention to my dreams

Additional comments:

APPENDIX 4

RECALL FACILITATING SUGGESTIONS

Several research studies have demonstrated that people can recall more dreams if they learn to pay more attention to them. I want to tell you about some things which have helped other people to remember more of their dreams. I know that some days you either won't be able to do them, forget to do them, oversleep, or something else may come up. That would be understandable but I'd like for you to try these techniques out as much as you can for this week.

1) When you awaken in the morning, lie quietly with eyes closed and try to remember a dream; don't jump out of the bed right away.
2) Try to awaken fairly abruptly; an alarm clock is best. Turn down the radio on a clock/radio so that just the alarm sounds.
3) Keep a pen and paper alongside the bed by you so when you wake up in the morning you can just reach over to get it without getting out of bed.
4) Suggest to yourself before falling asleep (while in bed) that in the morning you will wake up and will be able to remember a dream.
5) When you wake up in the morning, always write down your dream; do it in as much detail as possible. Make every effort not to doze while doing this or your dream will disappear.

APPENDIX 5

DAILY RECORD OF PERSONAL FEELINGS

S#___ Day of Week_____

Date_____

(Please fill in completely, 3 ratings on each scale, before retiring every day. Remember to record the "highest" and "lowest" you felt even though they may have been experienced only for a brief moment. The "average" represents your overall summary of the day. If after considerable reflection, you decide a mood is unratable or does not apply, mark it DNA. If at all possible, try to avoid this rating.)

(Detailed comments are very valuable to me. Any observations on how you felt, and why you felt that way, will be appreciated.)

I. Harmony vs. Anger
   Highest_____
   Average_____
   Lowest_____

II. Own Sociability vs. Withdrawal
   Highest_____
   Average_____
   Lowest_____

III. Tranquility vs. Anxiety
   Highest_____
   Average_____
   Lowest_____

IV. Impulse Expression vs. Self-Restraint
   Highest_____
   Average_____
   Lowest_____

V. Self-Confidence vs. Feelings of Inadequacy
   Highest_____
   Average_____
   Lowest_____

VI. Elation vs. Depression
   Highest_____
   Average_____
   Lowest_____

APPENDIX 6

DREAM RECORD SHEET

S#_____ Day of Week_____

(Use the space below to write out 1 dream you can remember this morning. Try to write the dream in as much detail as possible. If you are unable to recall a dream this morning, write "No Recall." Following the writing of your dream, fill in the brief mood rating scale focusing on your moods and emotions that you experienced in the dream.) If after considerable reflection, you decide a mood is unratable or does not apply, mark it DNA. If at all possible, try to avoid this rating.

I. Harmony vs. Anger
Highest_____
Average_____
Lowest_____

II. Own Sociability vs. Withdrawal
Highest_____
Average_____
Lowest_____

III. Tranquility vs. Anxiety
Highest_____
Average_____
Lowest_____

IV. Impulse Expression vs. Self-Restraint
Highest_____
Average_____
Lowest_____

V. Self-Confidence vs. Feelings of Inadequacy
Highest_____
Average_____
Lowest_____

VI. Elation vs. Depression
Highest_____
Average_____
Lowest_____

APPENDIX 7

DISTRIBUTION OF DREAM RECALL OVER 28 DAYS

	Number of Dreams																
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Males	0	2	0	2	1	2	2	4	3	2	4	1	1	1	0	0	0
Females	0	3	2	0	1	1	4	5	3	1	2	2	0	0	0	0	1
Total	0	5	2	2	2	3	6	9	6	3	6	3	1	1	0	0	1

APPENDIX 8

JUDGES' INSTRUCTIONS

Use the enclosed Personal Feeling Scales to rate each dream sequentially for moods which are expressed in the dream. Ratings should be based on moods which either appear directly or are merely implied by the action, circumstances, or tone of the dream narrative (e.g., a dream taking place on a frail ship in the midst of a storm would merit some measure of Anxiety regardless of whether this feeling was directly expressed). If however an implied mood is specifically contradicted (e.g., "A ship swaying in stormy seas which gently rocked me to sleep"), then the mood inference should not be made.

Ratings should be made with primary consideration given to the dreamer's own actions and feelings. Actions and feelings attributed to others in the dream may be rated when the dreamer's own reactions are obscured (e.g., "I stood by watching my friend faint when challenged to a fistfight" would suggest some feelings of inadequacy (Mood V).

Moods should be rated on a high/low basis of a fluctuation in mood is evident. (See Example B.) In many cases, a single value to denote the general level of a given mood or feeling state in the dream will be sufficient. A given mood may also not apply in certain dreams. If a mood is not applicable to a dream or is otherwise unratable, assign a rating of 5. Try to avoid this rating if at all possible.

After rating each of the four dreams per subject individually, reflect back on the set of four dreams and make a clinical judgment on a "trait level" of those moods as expressed collectively in the four dreams. That is, use the four dreams to predict the level of enduring

and stable moods (traits) of the individual. Although it is permissible to review your ratings of individual dreams, this is not necessary. Enter only one value for this "trait" rating (Do not use "high" or "low").

After each assigned rating, assess your level of confidence with the rating on a Scale of 1-5. That is, if you are very confident in your rating of a dream, assign a 5. If you are making an off-the-wall guess, assign a 1. Use intermediate values accordingly.

All subjects to be rated are undergraduates taking Introductory Psychology. The sex of each subject is indicated on the dream protocol.

It is suggested that you take a moment before starting to familiarize yourself with the mood scales and the sample ratings provided below.

A) Three of us were in my front yard playing a water game (hoses and balloons filled with water). After awhile, they took sides against me (like brothers against sisters). I got mad (not wanting to get wet) and flew up to the top of the roof and looked down at them. They couldn't reach me with the water.

(ON MOOD I, RATED A 3)

B) Was out camping--was walking from this small town--was trying to find a place to hide. I had a gun with me. I had shot a few people in leaving town, rather matter-of-factly though there were others in it. I was walking or running down the street with the gun. At first I didn't even try to find it. I later came upon this stream and got in. There was Spanish music in the background. I wanted to rest there a while, smoke some dope and find

out on a map where I was (it was not like just a stop-off in a car trip). I swam around in the stream and had a good time.

(ON MOOD III, RATED A HIGH OF 6, LOW OF 3)

C) Had remembered one day early that I was to be in a talent show and hadn't prepared too well. I decided that I wasn't ready--was a bit surprised that I could have at one time volunteered. I went to the show but had been left off the program anyway. I talked with Jim who was in it, professing that I didn't have much talent.

(ON MOOD V, RATED A 2)

D) I dreamed I had an accident and broke my leg. The rest of the dream I was in the hospital getting just loads of attention and sympathy. Friends came to see me and one of my overseas friends was even given a furlough to come home for a while. The pain I might have had from a broken leg never entered the dream. It was all very pleasant and I was the center of attraction.

(ON MOOD VI, RATED A 7)

G O O D L U C K !

APPENDIX 9

CHI-SQUARE ANALYSIS OF DREAM RECALL VS. NO RECALL
FOLLOWING DAYS OF SIGNIFICANT MOOD VARIATION

Mood Deviations	Males	Females
Mood I	4.01*	2.03
Mood II	2.08	.31
Mood III	.90	1.52
Mood IV	2.20	.33
Mood V	4.34*	.31
Mood VI	4.07*	.33
High Variability		
Mood I	1.10	.13
Mood II	.72	2.15
Mood III	.16	.21
Mood IV	1.10	2.58
Mood V	.60	2.94
Mood VI	1.20	.84
Low Variability		
Mood I	3.81	.00
Mood II	.65	1.24
Mood III	1.89	2.60(x)
Mood IV	6.35	.95
Mood V	3.53	.39
Mood VI	.75	.37

* $p < .05$

(x) Yates correction for continuity applied

APPENDIX 10

SELECTED RAW DATA (MALES)

Subject#	# of Dreams	Dream Length	Judge Group	16 PF Factor Stens													
				A	C	F	G	H	I	O	Q_1	Q_2	Q_3	Q_4	Q_I	Q_{II}
1	10	23	--	6	7	6	7	8	5	3	3	4	7	6	8.1	4.9
2	11	13	5	6	7	9	6	5	3	7	6	3	9	5	7.4	5.3
3	8	18	2	3	4	3	5	3	4	3	8	9	4	5	2.5	5.1
4	7	18	5	3	8	1	9	4	5	5	6	8	9	7	2.8	4.6
5	7	24	2	5	2	5	6	4	8	8	4	4	4	7	5.8	8.0
6	8	--	3	9	5	3	5	6	4	4	4	6	8	5	5.4	4.9
7	9	16	4	7	4	5	5	7	5	7	6	7	4	6	6.7	6.7
8	13	33	1	4	6	5	6	5	5	6	6	8	5	4	4.8	4.9
9	5	29	1	3	5	5	4	4	3	2	5	9	7	3	3.5	3.0
10	8	13	--	6	2	4	1	6	5	6	7	8	4	8	4.1	7.0
11	6	18	5	4	8	5	6	5	7	4	5	5	5	7	5.4	5.3
12	9	16	1	3	6	7	4	6	3	5	6	10	1	5	5.7	5.2
13	0	--	--	6	5	5	4	7	3	4	4	5	6	5	6.6	4.5
14	6	33	2	3	3	8	2	3	4	5	7	7	2	4	4.9	5.7
15	7	14	--	7	2	6	7	4	5	10	4	1	2	9	6.8	10.0
16	8	16	3	5	6	5	7	7	9	6	7	5	7	7	5.9	5.7
17	8	28	2	2	6	2	7	6	8	6	8	7	7	6	3.3	5.5
18	3	--	--	6	5	3	7	5	3	10	5	4	6	7	5.2	8.2
19	12	16	4	6	2	4	4	4	8	10	7	10	3	9	3.5	8.9
20	12	37	4	3	2	2	4	4	5	6	7	4	2	8	4.0	7.8
21	12	31	5	5	2	4	6	3	6	8	3	8	6	10	3.6	8.7
22	1	--	--	8	8	6	3	9	3	3	5	5	6	2	7.8	2.5
23	10	13	3	5	8	4	7	9	4	1	6	4	6	2	7.1	2.4
24	8	21	4	3	8	4	8	4	3	7	7	8	9	4	3.9	5.1
25	5	26	3	3	4	4	5	3	4	8	3	7	4	6	3.3	7.1

APPENDIX 10 (Cont'd)

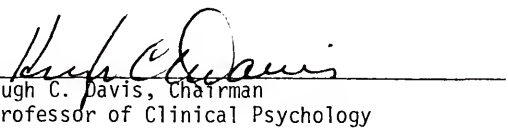
SELECTED RAW DATA (FEMALES)

Subject#	# of Dreams	Dream Length	Judge Group	16 PF Factor Stens												
				A	C	F	G	H	I	O	Q_1	Q_2	Q_3	Q_4	Q_I	Q_{II}
27	7	12	2	8	4	5	6	7	10	6	10	8	5	6	5.0	7.1
29	9	16	1	8	7	5	3	8	8	4	6	6	3	5	7.7	4.8
30	7	19	5	3	6	7	9	7	6	8	6	4	7	8	5.9	7.1
31	2	--	--	7	4	6	4	6	8	9	5	3	6	8	7.0	8.0
34	6	19	4	3	5	4	6	5	8	8	9	5	3	7	3.0	6.8
35	0	--	--	5	8	7	6	6	4	5	4	6	6	6	6.5	4.6
36	7	26	1	8	4	5	5	6	7	8	6	5	5	8	6.7	8.3
38	12	23	2	4	3	4	4	3	5	9	6	6	4	7	3.3	8.4
39	9	21	3	6	7	6	7	4	7	7	7	6	5	4	4.2	4.9
40	5	24	5	7	8	6	6	6	7	5	4	2	7	3	6.7	3.7
41	12	41	1	4	4	6	9	4	6	7	7	10	6	7	3.0	5.2
42	9	25	4	3	5	4	4	6	8	5	6	7	4	8	4.2	6.3
43	7	46	--	7	7	10	4	7	9	5	7	3	4	7	8.7	6.0
44	16	22	1	2	1	5	5	5	5	9	6	9	7	7	4.0	8.6
45	9	25	3	8	7	9	8	4	3	6	7	4	6	7	8.2	6.4
46	11	43	3	6	5	7	4	7	9	5	9	6	7	6	7.4	6.1
47	5	19	--	5	4	4	3	4	8	9	5	5	5	7	4.3	7.8
48	1	--	--	3	2	3	10	3	8	8	4	9	7	8	1.8	8.8
49	9	32	2	7	5	6	7	5	10	5	3	2	8	9	5.9	7.0
50	1	--	--	7	7	9	9	8	10	10	10	2	2	6	6.7	6.9
51	11	22	5	6	5	6	6	4	8	5	7	4	4	7	6.6	7.4
52	2	--	--	2	3	4	4	2	6	6	3	8	5	7	1.4	7.0
53	7	27	4	6	8	6	7	10	8	4	6	6	8	3	6.8	2.7
54	6	22	--	5	4	4	6	5	7	8	6	4	8	8	5.0	7.7
55	7	30	--	8	3	9	5	8	4	7	7	3	3	7	9.3	7.5
56	3	--	--	7	4	6	6	5	7	8	6	4	4	8	6.5	8.4

BIOGRAPHICAL SKETCH

Craig A. Updegrove was born in Arlington, Virginia, on October 21, 1952. He lived in nearby Falls Church through high school where he was involved with several musical organizations, the varsity tennis team and a few cheerleaders. Following high school he enrolled at the University of Richmond where he studied for two years. Becoming disillusioned in 1972, he transferred to Duke University where he had a good time, was active with several choral organizations and graduated with distinction in psychology. Following graduation (magna cum laude) in 1974, he enrolled in the graduate program in clinical psychology at the University of Florida. The Master's degree was received in 1976 under the chairmanship of Wilse B. Webb. Having been admitted to doctoral candidacy, and still a young man, he decided to go west for a year of clinical internship. While interning at the Veterans Administration Hospital in Palo Alto, California, he trained on the Family Study Unit and on a coeducational acute treatment psychiatric ward. By all accounts, it was a very good year. Upon graduation, he expects to return to California to continue riding the wave.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Degree of Doctor of Philosophy.

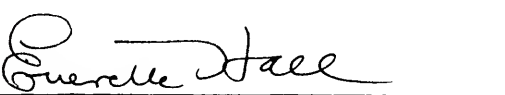


Hugh C. Davis, Chairman
Professor of Clinical Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Degree of Doctor of Philosophy.

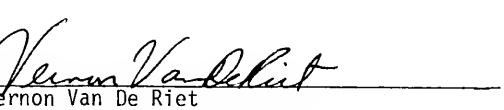
Wilse B. Webb, Cochairman
Graduate Research Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Degree of Doctor of Philosophy.



Everette Hall
Associate Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Degree of Doctor of Philosophy.



Vernon Van De Riet
Associate Professor of Clinical Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the Degree of Doctor of Philosophy.

Marilyn Zweig

Marilyn Zweig
Associate Professor of Philosophy

This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 1978

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